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"Financial problems are nuts and clover for demagogues."—J. A. GARFIELD.

H. S. GIVLER, Prop.

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NUMBER 8

## GREAT VALUE OF ALFALFA

NO OTHER KANSAS CROP YIELDS AS MUCH WEALTH PER ACRE.

Feed to Stock With Corn It Greatly Increases the Value of the Corn—Difficulties of Raising It—Its Numerous Peculiar Qualities.

Kansas City Star.

Kansas has 1,300,000 acres planted in crops that are practically unknown in the states east of the Missouri river. These crops are:

	Acres.
Kaffir corn.....	583,000
Fodder sorghums.....	449,000
Alfalfa.....	278,000

And the greatest of these is alfalfa; not in the extent of its cultivation, but in the profitability of it to those who know how to plant it, to care for it and to feed it. The alfalfa fields of western Kansas are yielding to their owners a greater net profit per acre than any other land of no greater value to be found anywhere in the world. Three crops of hay a year, yielding often five tons to the acre, and worth all the way from \$10 to \$40, according to the yield and the season, alfalfa is certainly one of the most wonderful crops raised anywhere in the world.

It has been demonstrated by chemical analysis and by experience that the feeding value of alfalfa hay is three times that of prairie hay, 50 per cent greater than that of red clover hay and almost as great, pound for pound, as that of bran. Indeed, the leaves of alfalfa, properly cured, contain more of the essentials for the production of meat than wheat bran.

But alfalfa is the scientific farmer's crop. It needs not only careful preparation of the soil and careful seeding, but a larger part of its good qualities can be spoiled in the harvesting than any other crop the state raises, unless great attention is given to the time of cutting and the manner of saving it. Nor is this all. Alfalfa's greatest value is making up a "balanced ration" for stock. It contains a large per cent of protein, an ingredient that is not plentiful in corn, and the feeding of alfalfa along with corn in the proper proportion immensely increases the value of the later cereal.

It may be fed or pastured, however, by itself with great profit. At the Agricultural college at Manhattan hogs pastured on alfalfa made a gain of 776 pounds per acre of alfalfa. With hogs worth 5 cents a pound on the farm this is a net return of \$38.80 per acre. What crop in Kansas can equal that, even in an exceptional case?

The experts and experimenters at the Manhattan college are making a vigorous effort to encourage the planting of alfalfa in eastern Kansas, and those who have adopted proper methods declare that it can be produced in any part of the state, and also in Nebraska and Oklahoma. The failures have been much more numerous than the successes in the eastern part of the state, but those who have not been able to get a good stand have not adopted the proper processes of preparing the land and of planting.

The last quarterly report of Secretary Coburn of the State Board of Agriculture is devoted to the subject of "Forage and Fodders," and the first place is given to alfalfa. The principal article on this subject was written by George L. Clothier, assistant botanist of the Agricultural college at Manhattan. Mr. Clothier says:

### HISTORY OF ALFALFA.

"Alfalfa has been cultivated since the dawn of ancient civilization. It was familiar to the Egyptians, Medes and Persians, Greeks and the Romans, who distributed it over a large part of Southern Europe. It is known in Spain by its Arabic name alfalfa, while the nations of the rest of Eu-

rope call it lucerne. Early in the history of the Western continent, the Spaniards carried alfalfa with them to South America, where, as an escape from civilization, it is said to be found to-day growing wild over large areas. In the arid districts of the Andes mountains it has no doubt acquired some of its wonderful powers of resistance to heat and drought.

"Alfalfa was carried from Chili to California about the year 1853, and from there it has spread eastward to the Mississippi—and even beyond. Lucerne was introduced into New York from the humid portions of Europe as early as 1820, but this importation seems not to have possessed the hardness which distinguishes the alfalfa of our western States. Recently the United States Department of Agriculture has imported seed from the arid plateaus of Turkestan, and this stock promises to be even more hardy and a greater boon to agriculture than has the South American importation.

### THE PROPER SOIL.

"The most desirable soil for alfalfa is that of fertile creek or river 'bottom' land, well drained and not subject to inundation. Any soil which retains standing water on its surface forty-eight hours will not successfully produce alfalfa. With this reservation, I believe it safe to assert that it will grow on any soil that will produce corn, and on a good many soils where corn will not grow. It prefers a soil, however, that is rich in the mineral elements of plant food, such as potash, lime, magnesia, phosphoric acid, and sulphur. A soil formed from decomposed limestone is ideal for the growth of alfalfa. In central and western Kansas 'alkali gumbo,' such as is frequently found on the creek bottoms of that section is considered the most valuable alfalfa land.

"In considering the food requirements of alfalfa, we need take into account only the mineral elements, since the plant is able to draw more nitrogen from the atmosphere by means of the tubercles on its roots than it can use, and thus to enrich the soil by the addition of this otherwise most expensive element of food-plant.

"It is the belief of the writer that 75 per cent of the total area of the state could be made to grow alfalfa successfully, and that if half of the cultivated area of Kansas were sown to this crop, her people would enjoy an income from their lands far greater than that which could possibly be secured from any crop known to agriculture.

### PREPARATION OF EASTERN KANSAS SOIL.

"Although successful stands of alfalfa have been secured in some parts of the West by simply scattering the seed among the prairie grasses and harrowing it in with an Acme or a disk harrow, or by seeding after the breaking plow on prairie sod, such methods are not to be recommended. The preparation of the soil for this valuable crop should be made with about as much earnestness and energy as is usually manifested by the young man in planning his new home for the reception of his prospective bride. In both cases the preparation generally outlines work for a lifetime. The preparation of the soil should rightly begin two or three years before the time of seeding.

"Although alfalfa roots penetrate very stiff soil, it generally pays to subsoil such to a depth of fifteen or twenty inches, so that the young plant roots may not meet with discouraging difficulties too early in life. The seed-bed should be as fine as an onion bed, and the subsurface be rather firm and well supplied with moisture. Manure plowed under at the time of subsoiling will add greatly to its physical condition, and thus help to start the young plants out in life with less difficulties to encounter. "If avoidable, alfalfa should never

be grown on freshly plowed land. If, on the first day of May, one has a clean piece of corn stubble which he is anxious to seed at once, he could in all probability secure a better stand by thoroughly disking and cross-disking the ground, and, after smoothing with a harrow, seeding without plowing.

"The better way to prepare clean land for spring seeding is by fall or winter plowing. The ground should be disked a number of times at varying intervals before seeding to keep it covered with the beneficent dusk blanket. Ground prepared in this way, after receiving the immediate harrowing always necessary, should be seeded early in April in the north half of Kansas.

### TIME OF SEEDING.

"Alfalfa has been successfully sown in Kansas in every month from March to September. Where the ground is not weedy spring seeding has been practiced with success. The cold rains of spring, however, when excessive, sometimes cause the young plants to rot off, as would be the case with the adult plant when submerged for two or three days. If the land has been given an opportunity to garner up a bountiful supply of moisture, early fall seeding will often be successful in eastern Kansas. This seeding should be done in the latter half of August or not later than the 10th of September.

### QUANTITY OF SEED NEEDED.

"The quantity of seed to sow on an acre is a question of considerable importance. The majority of successful growers advise twenty to thirty pounds. If the seed were universally good and the ground always well prepared, this would be grossly extravagant. Prof. Headen has made some interesting observations upon the 'stand' of alfalfa in a number of meadows. A field of alfalfa six months old was found to contain 653,400 plants per acre; another field of ten years old was found to contain 526,793 plants to the acre; another contained 139,392 plants to the acre. All of these three fields yielded the same quantity of hay per acre—a little over four tons. Another field 12 years old was found to contain only 70,283 plants per acre, and yet this field yielded over three tons of hay per acre. The stands in these different fields were respectively fifteen, twelve, three and less than two plants per square foot. A pound of alfalfa seed contains 210,000 seeds. If 90 per cent of them germinate, twenty pounds per acre would give 3,780,000 plants, or eighty-eight per square foot. After nine-tenths of the young plants have perished from crowding or accidents we would still have an ample stand. From these facts one can readily find the reasons for difference of opinion among good farmers as to the quantity of seed to sow. As low as eight to ten pounds per acre have frequently been used with success.

### CARE OF THE CROP.

"Alfalfa may be seeded broadcast or in drills. The seed should be covered about one inch in depth, unless the surface be very dry, when a somewhat greater depth is admissible. After the alfalfa has been sown in the spring, it will be necessary to run a mowing machine over the ground two or three times during the summer to keep down the weeds. Foxtail and crab grass are great enemies to young alfalfa. If a good stand of the young plants can be gotten through the second year, no subsequent crop of these weeds can hurt the alfalfa. Foxtail and crab grass are annuals, while alfalfa is a perennial that can crowd the weeds to death. I have heard farmers complain that the foxtail was ruining their alfalfa. I think all cases of this kind were caused by overpasturing the alfalfa, or by some other injury. When my alfalfa has obtained a firm foothold upon the ground, I will let any farmer who

wishes to try the experiment sow a ton of foxtail seed per acre on my alfalfa meadow and disk it in thoroughly. I have no fear that the alfalfa would be injured.

"The use of the disk harrow is a great advantage to an uneven stand of alfalfa. This causes the roots and crowns to become thicker in diameter and more vigorous. Wherever the disk cuts or bruises the crown many new buds are formed, and thus the number of shoots is materially increased.

### HOW TO HARVEST ALFALFA HAY.

"Mow down as much of the crop at once as can be handled in one day. Let it wilt in the swaths and then rake it into windrows to cure. It should be put into the stack with just as little handling as possible. When possible, alfalfa should be stored under a roof, as it does not turn rain well. Alfalfa should be cured and stacked, if possible, without being rained upon. No other crop is so easily injured by rain. Hay exposed for fifteen days to three showers, aggregating 1.76 inches of rainfall, contained 11.01 per cent of protein, while hay from the same land, cut the same day, but air dried without exposure, contained 18.71 per cent. Alfalfa hay rained upon is worth about half what it would be were it unexposed.

"Harvesting alfalfa at the right time and in the right manner very largely determines its feeding value. The majority of farmers wait too long before starting the mowing machine. Alfalfa for hay should be cut when one-fourth to one-half of the blossoms have opened. When let stand longer many of the leaves fall off and are wasted. Mowing early stimulates the growth of the following crop. Allowing it to go to seed seemingly exhausts the plant for that season.

### THE YIELD PER ACRE.

"The yield of hay on some of the best Kansas lands may reach six tons per acre, in favorable seasons. However, one must not expect more than three tons on the average. The question may be asked with propriety, 'What is the lowest yield that a farmer may get and yet realize an income from the crop?' In the semi-arid districts of the West, on cheap upland, an average annual crop of one ton to the acre is far more valuable than any other crop that can be grown on such land. The quality of the digestible nutrients in prime alfalfa hay makes it worth at least \$8 per ton for feeding purposes. The Kansas corn crop seldom pays more than \$8 per acre for the whole state. Some of our western friends are not at all contented with such a low yield, and if they cannot get the four to five tons usually harvested in their locality from the bottoms they assert that alfalfa is a failure on the uplands.

[Continued next week.]

### BEWARE OF OINTMENTS FOR CATARRH THAT CONTAIN MERCURY.

as mercury will surely destroy the sense of smell and completely derange the whole system when entering it through the mucous surfaces. Such articles should never be used except on prescriptions from reputable physicians, as the damage they will do is ten fold to the good you can possibly derive from them. Hall's Catarrh Cure, manufactured by F. J. Cheney & Co., Toledo, O., contains no mercury, and is taken internally, acting directly upon the blood and mucous surfaces of the system. In buying Hall's Catarrh Cure be sure you get the genuine. It is taken internally, and made in Toledo, Ohio, by F. J. Cheney & Co. Testimonials free. Sold by Druggists, price 75c. per bottle.

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Report of Ogallah school for month ending April 20, 1900: Number of pupils enrolled 33. Average daily attendance 26.9. Cases of tardiness 9. Those not absent or tardy: Clarence, Harry and Millie Roberts, Nellie Davidson, Caroline, Annie and Lawrence Richards. Clarence and Harry Roberts were not absent or tardy during the term. W. F. Swiggett, teacher.

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